City of Norwalk 2018 Drinking Water Consumer Confidence Report

Mayor Rob Duncan and the City of Norwalk Water Department are proud to report that throughout 2018 your drinking water met or exceeded all requirements set by the Ohio Environmental Protection Agency.

Please read this report to learn more about general health information, water quality test results, and how to find answers to any questions about the water.

In 2018, the City of Norwalk had an unconditional Ohio EPA license to operate its water system. In 2018, about 592 million gallons of surface water were processed at the city's treatment plant, an average of about 1.62 million gallons a day. The capacity of the plant, located at the intersection of Woodlawn Avenue and Old State Road, is 4 million gallons a day. The plant operates and is staffed 24 hours a day, every day of the year.

The water undergoes multiple types of treatment to ensure its safety. Treatment includes: adsorption, coagulation, sedimentation, oxidation, filtration, stabilization, fluoridation and disinfection. Most all of the plant facilities have back-up systems available to always maintain the ability to provide safe water to our customers. The treatment plant staff strives to keep all equipment in top working condition, while at the same time keeping costs and customer rates as low as possible.

Finished drinking water is stored in two elevated tanks with capacities of 400,000 gallons and 750,000 gallons. The larger tank, originally constructed in 1952, was completely rehabilitated in 2016 so that it can continue to serve the city's needs for decades to come. Vital facilities at the water plant were also rehabilitated in 2016.

The city also buys about 54 million gallons of finished drinking water a year from Northern Ohio Rural Water (NORW) to supplement water produced at the plant. In an emergency, additional water could be obtained from NORW. Sources for the NORW water are municipal water plants in Elyria, Lorain, New London and Sandusky. This report includes data from Elyria, Lorain, New London and Sandusky.

Expanded efforts to protect the primary source of your drinking water – the Norwalk Creek Watershed -- were launched by the city in 2013. To protect consumers, the City of Norwalk administers a backflow prevention program. Backflow is the unwanted reversal of water flow and can be a serious health risk. In a backflow event, potentially contaminated water can enter the water supply system from a facility's plumbing. A properly installed and maintained backflow prevention device can stop contaminated water from leaving the premises. The flow reversal can be caused by a water main break or other unpredictable change in the system or a change within the facility itself.

Most businesses, residences with lawn-sprinkling systems, and certain other facilities must have backflow prevention devices in their plumbing systems to help prevent contamination of drinking water in the distribution system. Additionally, all consumers are urged to use a simple vacuum breaker on hoses to help prevent possible back-siphonage of water from swimming pools, lawn chemicals or other contaminants into the drinking water. For more information, call Alyssa Heater at 419-663-6725.

For more information

Questions about water quality may be directed to David Ackerman, Superintendent of the water treatment plant at 419-663-6725. Public comment is also welcome at City Council's regular meetings, held at 7:30 p.m. on the first and third Tuesdays of each month in Municipal Court, off of Whittlesey Avenue, near the fire station.

Copies of this report are available at City Hall, the water plant and the wastewater plant, and on the city's website: www.norwalkoh.com.

About your drinking water

About 75 different kinds of tests were completed on thousands of water samples in 2018 to confirm drinking water safety. Included were tests to detect bacteria, inorganic compounds, synthetic and volatile organic compounds, copper and nitrates. Tests for most contaminants did not result in detections. The Ohio EPA requires us to monitor for some contaminants less than once per year because concentrations of the contaminants do not change frequently. Some of our data, though accurate, is more than a year old.

What are sources of contamination in drinking water?

The sources of drinking water both tap water and bottled water; include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

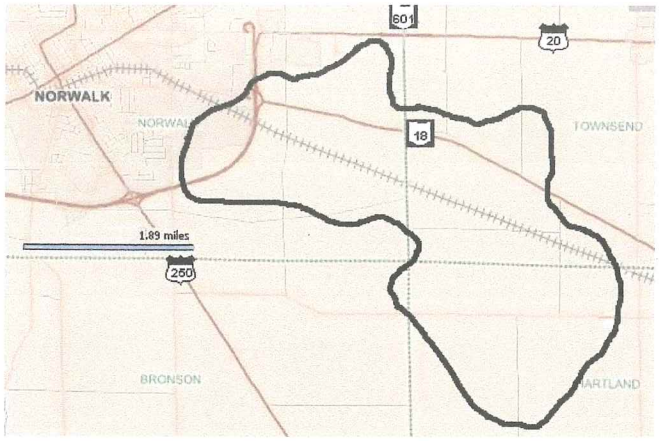
In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791).

Who needs to take special precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infection. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Source water information



The City of Norwalk's Water Treatment Plant is fed by rainwater runoff from about 8 square miles of land east-southeast of the city (see map at left). The runoff forms Norwalk Creek, which flows into the city's reservoirs on Old State Road. Raw water is pumped from the Lower Reservoir into the plant for sophisticated treatment before it is distributed to consumers. The design capacity of the three-reservoir system is nearly 700 million gallons, more than a year's supply. The East Branch of the Huron River is an additional water source.

With the assistance of the Ohio Rural Water Association and Ohio EPA, the City of Norwalk developed a Source Water Protection Plan for the Norwalk Creek watershed. The plan was endorsed by Ohio EPA in 2014. The plan calls for the city to work with property owners in the watershed to find ways to improve the quality of water coming into the reservoirs. Harmful algal blooms have occurred in Norwalk's reservoirs the past three years. These types of algae, also known as cyanobacteria, sometimes produce toxins that can be harmful to people and domestic animals. The phosphorus required for a harmful algal bloom to occur was a result of activities in the watershed. The blooms illustrate how vulnerable the water supply is to activities in the watershed. To date, algal toxins have not entered the water plant. But if they did, water plant staff is confident any toxins can be effectively removed before the water reaches customers.

The source water protection plan, including a more detailed map of the watershed, is available on the city's website at https://www.egovlink.com/public_documents300/norwalk/published_documents/Water%20and%20Wastewater%20Treatment/Norwalk%20Protection%20Plan%20February%202015.pdf.

Ohio EPA performed an assessment of our source water in 2005. For the purposes of water source assessments, all surface water in Ohio, including the Norwalk Creek watershed, is considered to be susceptible to contamination. By its nature, surface water is readily accessible and can be contaminated by chemicals and pathogens that may rapidly arrive at the public drinking water intake with little warning.

Potential contaminant sources to the city's drinking water are agricultural runoff, pesticide/fertilizer/petroleum storage, a fertilizer plant, transportation accidents, confined animal feedlots, above ground storage tanks, auto repair and car dealerships, silage, pastures, industrial storm water, home construction, gas line rupture, Laundromats, construction and demolition debris and golf courses. The water plant treats water to meet drinking water standards, but available treatment techniques cannot address all potential contaminants. Implementing measures to protect Norwalk Creek can further decrease the potential for water quality impacts. More detailed information is in the city's Drinking Water Source Assessment Report, which can be obtained from the water plant, 419-663-6725.

The city's Source Water Protection Plan attempts to address the potential contamination sources listed above through the voluntary cooperation of property owners and other governmental agencies.

The following is source water information for finished water purchased from Northern Ohio Rural Water:

City of Elyria - Our water system uses surface water drawn from two intakes in Lake Erie. For the purpose of source water assessments, in Ohio all surface water are accessible and can be readily contaminated by chemicals and pathogens, with relatively short travel time from source to intake.

In order to ensure that tap water is safe to drink, USEPA prescribes regulation which limit the amount of certain contaminates in water provided by public water systems. FDA regulations establish limits for contaminants in bottle water which must provide the same protection for public health. Although the City of Elyria's surface water intake are located offshore in Lake Erie, the proximity of Beaver Creek and Martin's Run increases the susceptibility of the source water to contamination. The City of Elyria's drinking water source protection area is susceptible to contamination from municipal wastewater treatment discharges, air contamination deposition, runoff from residential, agricultural and urban areas, oil and gas production and transportation, leaking underground storage tanks and accidental releases and spills from rail and vehicular traffic as well as from commercial shipping and recreational boating.

The City of Elyria's public water system treats the water to meet drinking water quality standards, but no single treatment technique can address all potential contaminants. The potential for water quality impacts can be further decreased by implementing

measures to protect Lake Erie, Beaver Creek, and Martin's Run. More detailed information is provided in the City of Elyria's Drinking Water Source Assessment report, which can be obtained by calling Elyria Water Works, 440-324-7669.

City of Lorain - Although the City of Lorain's surface water intake is located offshore in Lake Erie, the proximity of the Black River increases the susceptibility of the source water to contamination. The City of Lorain's drinking water source protection area contains a moderate number of potential contaminant sources. These include accidental spills, releases associated with commercial shipping and recreational boating, air contaminant deposition, contaminants from industries and agricultural runoff, contaminants associated with oil and gas production and transportation, sediments from river dredging and disposal operations, natural erosional processes, contaminated storm water runoff from urban areas, municipal and home sewerage treatment system discharges, and combined sewer overflows.

The City of Lorain's Public Water System treats the water to meet drinking water quality standards, but no single treatment technique can address all potential contaminants. Implementing measures to protect Lake Erie and the Black River can further decrease the potential for negative impacts on water quality. More detailed information is provided in the City of Lorain's Drinking Water Source Assessment report, which can be obtained by calling Lorain Water Purification Plant, 440-204-2280.

City of Sandusky- Public Water System uses surface water drawn from two intakes, a main intake located in Lake Erie and an emergency backup intake located in Sandusky Bay. For the purpose of source water assessments, in Ohio all surface waters are considered to be susceptible to contamination. By their nature, surface waters are accessible and can be readily contaminated by chemicals and pathogens, with relatively short travel times from source to intake.

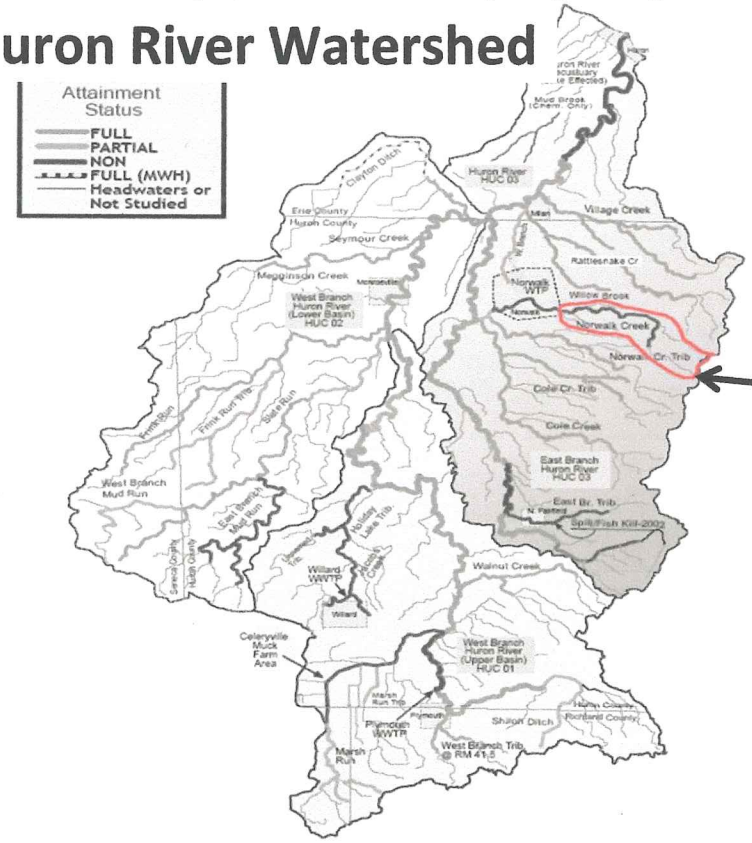
Although the water system's main intake is located offshore in Lake Erie, the proximity of several onshore sources increases the susceptibility of the source water to contamination. The City of Sandusky Public Water System's drinking water source protection area is susceptible to contamination from municipal sewage treatment plants, industrial wastewater, combined sewer overflows, home sewage disposal system discharges, open water dredge disposal operations, and accidental release and spills, especially from commercial shipping operations and recreational boating.

The City of Sandusky Public Water System treats the water to meet drinking water quality standards, but no single treatment technique can address all potential contaminants. The potential for water quality impacts can be further decreased by implementing measures to protect Lake Erie. More detailed information is provided in the City of Sandusky Public Water System's Drinking Water Source Assessment report, which can be obtained by calling the (419) 627-5805 or by visiting the Ohio EPA'S Source Water Assessment and Protection Program web page at http://epa.ohio.gov/ddagw/swap.

Village of New London – The Village of New London's public water system uses surface water drawn from an intake on Buck Creek. The Village's drinking water source protection area is susceptible to agricultural runoff, confined animal feedlots, pasture, silage, pesticide/ fertilizer/ petroleum storage, above ground storage tanks, industrial storm water, gas line rupture, gas station runoff, home construction runoff, feed lot runoff, marina boat docks, furniture repair and refinishing, unsewered areas, and truck fleet terminals.

The Village of New London's public water system treats the water to meet drinking water quality standards, but no single treatment technique can address all potential contaminants. The potential for water quality impacts can be further decreased by implementing measures to protect Buck Creek. More detailed information is provided in the Village of New London's Drinking Water Source Assessment report, which can be obtained by calling the Village of New London, 419-929-4091.

Huron River Watershed



The Norwalk Creek watershed (outlined), which feeds the city's reservoir system, is a small portion of the overall Huron River watershed.
The reservoirs' watershed is about 8 square miles, less than 2 percent of the river's overall watershed.

The Huron River Watershed drains some 403 square miles of land in western Huron County along with portions of Erie, Seneca, and Richland counties

Definitions of Some Terms Used in This Report

AL - Action Level - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

MCL - Maximum Contaminant Level - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG - Maximum Contaminant Level Goal - The level of a contaminant in drinking water below which there is no known or expected health risk. MCLGs allow for a margin of safety.

MRDL - Maximum Residual Disinfectant Level - The highest level of residual disinfectant (chlorine) allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG - Maximum Residual Disinfectant Level Goal - The level of residual disinfectant in drinking water below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Microsystin – Liver toxins produced by a number of cyanobacreria. Total microcystins are the sum of all the variants/Congeners (form) of Cyanotoxin microcystin.

N/A – Not applicable

ND – Not detected

TT - Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water.

ppm - Parts Per Million - Units of measure for concentration of a contaminant. A part per million corresponds to one second in a little over 11.5 days.

Ppb or ug/l - Parts Per Billion - Units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.

90th Percentile – 90% of samples are equal to or less than the number in the chart.

NTU - Nephelometric Turbidity Unit - A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L - Picocuries Per Liter: A common measure of radioactivity.

The "<" symbol means less than. For example, if a result was <5, the lowest level that can be detected was 5 and the contaminant in that sample was not detected.

Lead information

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Testing in 2016 showed that the City of Norwalk is in compliance with the Ohio EPA Lead and Copper Rule.

Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Norwalk is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When the water has been sitting in your pipes for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in you water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at http://www.epa.gov/safewater/lead.

Lead can enter drinking water through corrosion of plumbing materials, especially where the water has high acidity or low mineral content. Homes built before 1986 are more likely to have pipes, fixtures and/or solder containing lead. Homes built before about 1940 may have a service line made of lead. A service line is the pipe that runs from the street to the building. Since 2014, federal law has become more stringent -- requiring all new pipes, pipe fittings, plumbing fittings, fixtures and solder to be "lead-free."

Corrosion is a dissolving or wearing away of metal caused by a chemical reaction between water and plumbing. A number of factors are involved in the extent to which lead enters the water including the chemistry of the water (acidity and alkalinity), the amount of lead it comes into contact with, how long the water stays in the plumbing materials, and the presence of protective scales or coatings inside the plumbing materials.

Following EPA protocol, The City of Norwalk applies sodium hydroxide and polyphosphates to the water to ensure it is stable, and not corrosive to plumbing. Plant operators run tests every two hours to ensure the water has a proper pH. More extensive testing is done weekly to confirm the water is stable.

Sodium hydroxide increases the pH of the water so that it has less potential to be corrosive. Polyphosphates further stabilizes the water, and leaves a thin coating on pipes and plumbing fixtures. The coating provides a protective barrier between the water and the metals in the plumbing.

What's in my water?

The following charts identify contaminants found in the City of Norwalk's drinking water, along with data on water that is purchased from Northern Ohio Rural Water. As indicated in the charts, none of the contaminants' levels were high enough to exceed drinking water standards.

Data on contaminants found in the City of Norwalk's drinking water

Contaminants (units)	MCLG	MCL	Level Found	Range of Detections	Violation ?	Sample Year	Typical Source of Contamination
Microbiological Contaminants							
Total Organic Carbon (a)	N/A	TT	1.97	1.6 - 3.32	No	2018	Naturally present in the environment
Turbidity (NTU) (b)	N/A	TT	0.3	0.03 - 0.30	No	2018	Soil runoff
Turbidity (% samples meeting standard)	N/A	TT	100.00%	100%	No	2018	Soil runoff
Radioactive Contaminants							
Beta Emitters (pCi/L)	0	AL= 50 pCi/L	4.1	N/A	No	2015	Decay of natural and man-made deposits
Inorganic Contaminants							
Barium (ppm)	2	2	0.19	N/A	No	2018	Erosion of natural deposits
Fluoride (ppm)	4	4	0.89	0.73 - 1.10	No	2018	Erosion of natural deposits; additive which promotes strong teeth; discharge from fertilizer plants
Nitrate (ppm)	10	10	0.79	<0.10 - 0.79	No	2018	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Volatile Organic Contaminants							
Haloacetic Acids [HAA5](ppb)	N/A	60	31.65	22 - 35.6	No	2018	By-product of drinking water chlorination
TTHMs [Total Trihalomethanes] (ppb)	N/A	80	50.53	27.4 - 79.1	No	2018	By-product of drinking water chlorination
Levels for Total Triahalomethanes and Haloacetic Acids are based on locational running averages for the year 2018.							
Synthetic Organic Contaminants							
Atrazine (ppb)	3	3	0.12	0.1-0.13	No	2018	Runoff from herbicide used on row crops
Simazine (ppb)	4	4	0.3	0.23-0.37	No	2018	Herbicide runoff
Residual Disinfectants							
Total Chlorine (ppm)	MRDLG=4	MRDL=4	1.51	1.15 - 1.71	No	2018	Water additive used to control microbes
Levels for Total Organic Carbon and Total Chlorine are based on running averages for the year 2018.							
Lead and Copper							
Contaminants (Units)	Action Level (AL)	Individual Results over the AL		90% of test levels were less than	Violation	Sample Year	Typical Source of Contaminants
Copper (ppm)	1.3	None		.216 ppm	No	2016	Corrosion of household plumbing
Zero out of 30 samples from residential taps was found to have a copper level above the action level.							
Lead (ppb)	15	16 ppb		<4 ppb	No	2016	Corrosion of household plumbing; erosion of natural deposits
One out of 30 samples from residential taps was found to have a lead level above the action level.							
Unregulated Contaminants							
Chloroform (ppb)	N/A	N/A	32.37	19.9 - 60.5	No	2018	By-product of drinking water chlorination
Bromoform (ppb)	N/A	N/A	0.6	<0.5 - 0.6	No	2018	By-product of drinking water chlorination
Bromodichloromethane (ppb)	N/A	N/A	9.36	5.9-15	No	2018	By-product of drinking water chlorination
Dibromonchloromethane (ppb)	N/A	N/A	2.51	1.6 - 3.6	No	2018	By-product of drinking water chlorination
Unregulated Substance (UCMR4)	MCLG	MCL	Level Found	Range of Detections	Sample Location	Sample Year	
HAA5	N/A	60	32.48	22.48-56.44	Distribution	2018	
HAA6Br	N/A	N/A	10.3	6.99-14.06	Distribution	2018	The US EPA is having water systems
HAA9	N/A	N/A	42.13	30.32-68.39	Distribution	2018	monitor certain unregulated
Total Organic Carbon (a)	N/A	TT	4802.5	4530-5140	Source Water	2018	Contaminants that do not have an MCL
Bromide	N/A	N/A	26.13	24.9-27.7	Source Water	2018	
Manganese	N/A	N/A	1.54	0.0-4.84	Entry Point	2018	

Data on contaminants found in drinking water from the Elyria Water Works

Contaminants (units)	MCLG	MCL	Level Found	Range of Detections	Violation ?	Sample Year	Typical Source of Contamination
Microbiological Contaminants							
Total Organic Carbon(a)	TT	TT	1.3	1.0 - 2.0	No	2018	Naturally present in the environment
Turbidity (NTU) (b)	N/A	<0.3	0.2	0.04 - 0.20	No	2018	Soil runoff
Turbidity (% samples meeting standard)	N/A	100%	100%	100% - 100%	No	2018	Soil runoff
Inorganic Contaminants							
Barium (ppm)	2	2	0.0019	0.0019	No	2018	Erosion of natural deposits
Fluoride (ppm)	4	4	1.19	0.81 - 1.19	No	2018	Erosion of natural deposits; additive which promotes strong teeth; discharge from fertilizer plants
Nitrate (ppm)	10	10	1.16	0.12 - 1.16	No	2018	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Data on contaminants found in drinking water from the Lorain Water Department

Microbiological Contaminants (units)	MCLG	MCL	Level Found	Range of Detections	Violation ?	Sample Year	Typical Source of Contamination
Total Organic Carbon(a)	N/A	TT	1.2	1.0 – 2.1	No	2018	Naturally present in the environment
Turbidity (NTU) (b)	N/A	<0.3	0.16	0.04 - 0.16	No	2018	Soil runoff
Turbidity (% samples meeting standard)	N/A	100%	100%	100% - 100%	No	2018	Soil runoff
Inorganic Contaminants							
Barium (ppm)	2	2	0.04	NA	No	2018	Erosion of natural deposits
Fluoride (ppm)	4	4	1.02	0.56 - 1.23	No	2018	Erosion of natural deposits; additive which promotes strong teeth; discharge from fertilizer plants
Nitrate (ppm)	10	10	1.14	ND – 1.14	No	2018	Runoff from fertilizer use erosion of natural deposits leaching from septic tanks, sewage Soil runoff
Microcystin (ppb)	N/A	0.3	0.43	<0.3-0.43	No	2018	

Data on contaminants found in drinking water from the Village of New London

Microbiological Contaminants (units)	MCLG	MCL	Level Found	Range of Detections	Violation ?	Sample Year	Typical Source of Contamination
Total Organic Carbon(a)	N/A	TT	1	1.0 - 1.37	No	2018	Naturally present in the environment
Turbidity (NTU) (b)	N/A	<0.3	0.2	0.04 - 0.20	No	2018	Soil runoff
Turbidity (% samples meeting standard)	N/A	100%	100%	100% - 100%	No	2018	Soil runoff
Inorganic Contaminants							
Barium (ppm)	2	2	0.0265	N/A	No	2018	Erosion of natural deposits
Fluoride (ppm)	4	4	1.04	0.460 - 1.30	No	2018	Erosion of natural deposits; additive which promotes strong teeth; discharge from fertilizer plants
Nitrate (ppm)	10	10	0.70	<0.10 - 0.70	No	2018	Runoff from fertilizer use erosion of natural deposits leaching from septic tanks, sewage

Data on contaminants found in drinking water from the City of Sandusky

Microbiological Contaminants (units)	MCLG	MCL	Level Found	Range of Detections	Violation ?	Sample Year	Typical Source of Contamination
Total Organic Carbon(a)	N/A	TT	1.3	1.1 - 2.3	No	2018	Naturally present in the environment
Turbidity (NTU) (b)	<0.10	0.3	0.23	0.03 - 0.23	No	2018	Soil runoff
Turbidity (% samples meeting standard)	N/A	100%	100%	100% - 100%	No	2018	Soil runoff
Inorganic Contaminants							
Fluoride (ppm)	4	4	0.9	0.1 - 1.1	No	2018	Erosion of natural deposits; additive which promotes strong teeth; discharge from fertilizer plants
Nitrate (ppm)	10	10	1.40	0.0 - 1.4	No	2018	Runoff from fertilizer use erosion of natural deposits leaching from septic tanks, sewage
Barium (ppm)	2	2	0.016	N/A	No	2018	Erosion of natural deposits

Data on contaminants found in drinking water from the Lorain Water Department

Microbiological Contaminants (units)	MCLG	MCL	Level Found	Range of Detections	Violation ?	Sample Year	Typical Source of Contamination
Total Organic Carbon(a)	N/A	TT	1.2	1.0 – 2.1	No	2018	Naturally present in the environment
Turbidity (NTU) (b)	N/A	<0.3	0.16	0.04 - 0.16	No	2018	Soil runoff
Turbidity (% samples meeting standard)	N/A	100%	100%	100% - 100%	No	2018	Soil runoff
Inorganic Contaminants							
Barium (ppm)	2	2	0.04	NA	No	2018	Erosion of natural deposits
Fluoride (ppm)	4	4	1.02	0.56 - 1.23	No	2018	Erosion of natural deposits; additive which promotes strong teeth; discharge from fertilizer plants
Nitrate (ppm)	10	10	1.14	ND – 1.14	No	2018	Runoff from fertilizer use erosion of natural deposits leaching from septic tanks, sewage Soil runoff
Microcystin (ppb)	N/A	0.3	0.43	<0.3-0.43	No	2018	

Data on contaminants found in drinking water from the Village of New London

Microbiological Contaminants (units)	MCLG	MCL	Level Found	Range of Detections	Violation ?	Sample Year	Typical Source of Contamination
Total Organic Carbon(a)	N/A	TT	1	1.0 - 1.37	No	2018	Naturally present in the environment
Turbidity (NTU) (b)	N/A	<0.3	0.2	0.04 - 0.20	No	2018	Soil runoff
Turbidity (% samples meeting standard)	N/A	100%	100%	100% - 100%	No	2018	Soil runoff
Inorganic Contaminants							
Barium (ppm)	2	2	0.0265	N/A	No	2018	Erosion of natural deposits
Fluoride (ppm)	4	4	1.04	0.460 - 1.30	No	2018	Erosion of natural deposits; additive which promotes strong teeth; discharge from fertilizer plants
Nitrate (ppm)	10	10	0.70	<0.10 - 0.70	No	2018	Runoff from fertilizer use erosion of natural deposits leaching from septic tanks, sewage

Data on contaminants found in drinking water from the City of Sandusky

Microbiological Contaminants (units)	MCLG	MCL	Level Found	Range of Detections	Violation ?	Sample Year	Typical Source of Contamination
Total Organic Carbon(a)	N/A	TT	1.3	1.1 - 2.3	No	2018	Naturally present in the environment
Turbidity (NTU) (b)	<0.10	0.3	0.23	0.03 - 0.23	No	2018	Soil runoff
Turbidity (% samples meeting standard)	N/A	100%	100%	100% - 100%	No	2018	Soil runoff
Inorganic Contaminants							
Fluoride (ppm)	4	4	0.9	0.1 - 1.1	No	2018	Erosion of natural deposits; additive which promotes strong teeth; discharge from fertilizer plants
Nitrate (ppm)	10	10	1.40	0.0 - 1.4	No	2018	Runoff from fertilizer use erosion of natural deposits leaching from septic tanks, sewage
Barium (ppm)	2000	2000	0.016	N/A	No	2018	Erosion of natural deposits

Notes explaining portions of the contaminant charts

(a) The value reported under "Level Found" for Total Organic Carbon (TOC) is the lowest ratio between the percentage of TOC actually removed to the percentage of TOC required to be removed. A value of greater than one indicates that the water system is in compliance with TOC removal requirements. A value of less than one indicates a violation of TOC removal requirements. Compliance is based on a running annual average.

(b) Turbidity is a measure of cloudiness of water and is an indication of the effectiveness of our filtration systems. The turbidity limit set by the EPA is 0.3 NTU in 95 percent of daily samples, and turbidity shall not exceed 1 NTU at any time. As reported above, The City of Norwalk's highest recorded turbidity result was 0.30 NTU and the lowest monthly percentage of samples meeting the turbidity limits was 100 percent. The Elyria Water Works' highest recorded turbidity was 0.20 NTU and the lowest monthly percentage of samples meeting the turbidity limits was 100 percent. Lorain's highest recorded turbidity was 0.16 NTU and the lowest monthly percentage of samples meeting the turbidity limits was 100 percent. The Village of New London's highest recorded turbidity was 0.20 NTU and the lowest monthly percentage of samples meeting the turbidity limits was 100 percent. The City of Sandusky's highest recorded turbidity result was 0.20 NTU and the lowest monthly percentage of samples meeting the turbidity limits was 100 percent.

(c) Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. In 2018 The City of Norwalk participated in the fourth round of the Unregulated Monitoring Rule

(UCMR 4). For a copy of the results please call the City of Norwalk Water Plant at 419-663-6725. The City of Lorain also participate in the fourth round of UCMR4 in 2018. For a copy of their results please call the Lorain Water Purification Plant at 440-204-2280.

Additional information on Norwalk water

The following table displays additional information on Norwalk water. These parameters have no health effects, but may be of interest to some water users.

Parameter	Average Level	Range of Levels	Explanation
pH	7.19	6.83 - 7.62	pH is a measure of how acidic or basic water is. The range is 0 - 14, with 7 being neutral. A pH of less than 7 indicates acidity, whereas a pH of greater than 7 indicates a base. Many things affect the water's pH. Our goal is to keep the pH just above 7.0.
Alkalinity (ppm)	101.6	82 - 128	Alkalinity is a measure of water's buffering capacity. The alkalinity of Norwalk water is conducive to our treatment methods.
Hardness (ppm)	141.2	122 - 158	Hardness of water is a measure of total minerals in the water. Calcium is the predominant mineral in Norwalk water. The hardness of the water varies seasonally and is generally higher in the winter.
Phosphates (ppm)	0.47	0.04 - 0.82	Phosphates are used to stabilize the water -- ensuring that it is not corrosive and that it does not release mineral deposits.
Manganese (ppm)	0.027	.01-.05	Manganese is a naturally occurring element, abundant throughout the environment. At levels about 0.05, manganese can stain laundry and plumbing fixtures. It can also cause the water to discolor.